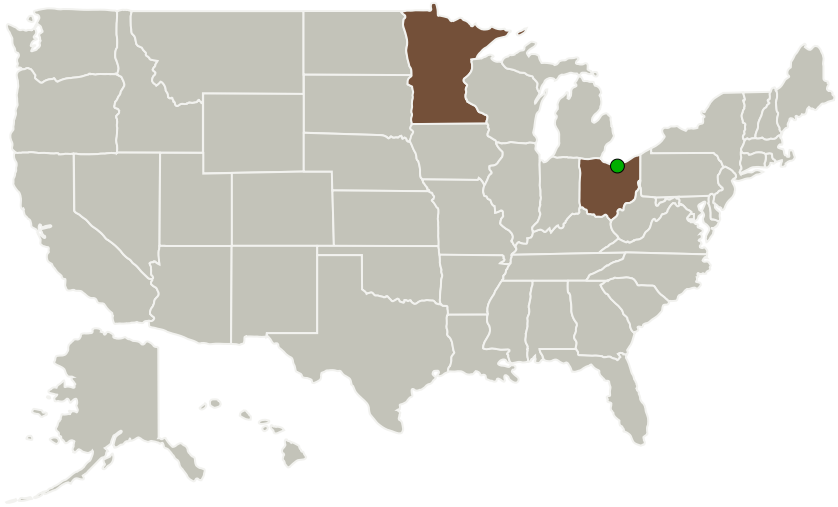
Highly Efficient InGaN-Based Solar Cells for High Intensity and High Temperature Operation, Phase I

Completed Technology Project (2010 - 2010)

Project Introduction

In this SBIR Phase I program, we propose to fabricate high-efficiency and radiation hard solar cells based on InGaN material system that can cover the whole solar spectrum by adjusting the alloy composition. The main program objectives include the fabrication of InGaN-based solar cells on large diameter substrates, with external efficiency in excess of 35%, and capable of long life operation in high radiation environment of space at elevated temperatures.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
SVT Associates	Lead Organization	Industry	Eden Prairie, Minnesota
Glenn Research Center(GRC)	Supporting Organization	NASA Center	Cleveland, Ohio

Primary U.S. Work Locations	
Minnesota	Ohio

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Project Transitions

January 2010: Project Start

July 2010: Closed out

Closeout Summary: Highly Efficient InGaN-Based Solar Cells for High Intensity and High Temperature Operation, Phase I Project Image

Closeout Documentation:

- Final Summary Chart Image*(https://techport.nasa.gov/file/140576)*

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

SVT Associates

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

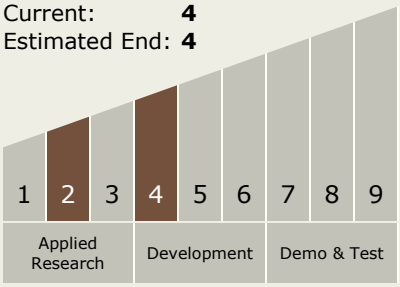
Carlos Torrez

Principal Investigator:

Amir Dabiran

Technology Maturity (TRL)

Start: **2**
Current: **4**
Estimated End: **4**



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Technology Areas

Primary:

- TX03 Aerospace Power and Energy Storage
  - TX03.1 Power Generation and Energy Conversion
    - TX03.1.1 Photovoltaic

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System